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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,435	12/12/2003	Surya Veeraraghavan	SC13065TP	3895
23125	7590	12/15/2004	EXAMINER	
FREESCALE SEMICONDUCTOR, INC. LAW DEPARTMENT 7700 WEST PARMER LANE MD:TX32/PL02 AUSTIN, TX 78729			VU, HUNG K	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/734,435

Applicant(s)

VEERARAGHAVAN ET AL.

Examiner

Hung Vu

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-18 is/are allowed.
- 6) ☒ Claim(s) 7-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/12/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Invention of Group II, Claims 7-18, in the reply filed on 09/21/04 is acknowledged.

Claims 1-6 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 09/21/04.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art of Figures 1 and 2.

Applicant's Admitted Prior Art of Figures 1 and 2 disclose a method for forming a silicon-on-insulator transistor comprising:

providing an insulating layer;

forming an active region overlying the insulting layer, a portion of the active region

providing an intrinsic body region;

forming a body tie access region within the active region and also overlying the insulting layer and laterally adjacent the intrinsic body region, the body tie access region making electrical contact to the intrinsic body region;

forming a gate electrode overlying the intrinsic body region for providing electrical control of the intrinsic body region of the silicon-on-insulator transistor and extending over a portion of the body tie access region to minimize parasitic capacitance and gate electrode leakage;

forming first and second current electrodes adjacent opposite sides of the intrinsic body region;

forming a body tie diffusion within the active region and laterally offset from the body tie access region and electrically coupled to the body tie access region.

With regard to claim 8, Applicant's Admitted Prior Art of Figures 1 and 2 disclose the method further comprising forming a dielectric layer overlying substantially all of the body tie access region including the portion of the gate electrode that overlies the body tie access region.

With regard to claim 9, Applicant's Admitted Prior Art of Figures 1 and 2 disclose the method further comprising doping a portion of the body tie access region that underlies the dielectric layer to increase doping concentration of the body tie access region to substantially minimize formation of a depletion region in the body tie access region.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art of Figures 1 and 2.

With regard to claim 10, Applicant's Admitted Prior Art of Figures 1 and 2 do not disclose the doping further comprises using a pattern feature in a first mask as a first selective block for the doping and reusing the pattern feature in a second mask as a second selective block to provide the dielectric layer. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dope the doping by using a pattern feature in a first mask as a first selective block for the doping and reusing the pattern feature in a second mask as a second selective block to provide the dielectric layer in order to form desired pattern of the dielectric layer and to reduce the process time.

With regard to claim 11, Applicant's Admitted Prior Art of Figures 1 and 2 do not disclose the method further comprising minimizing parasitic gate capacitance and current leakage by not extending the gate electrode over more than one-half of the body tie access region, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the gate electrode having a desired extension, since it has been held that

Art Unit: 2811

discovering an optimum value of a result effective variable involves only routine skill in the art.

In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Allowable Subject Matter

4. Claims 12-18 are allowed.

5. The following is an examiner's statement of reasons for allowance:

Applicant's claims 12-18 are allowable over the references of record because none of these references disclose or can be combined to yield the claimed method comprising the step of forming halo/extension implants of dopants into the intrinsic body region while substantially blocking the halo/extension implants of dopants from the body tie access region, forming the sidewall spacer dielectric material overlying the substantially constant length gate electrode material and body tie access region and removing the sidewall spacer dielectric material substantially everywhere except overlying the body tie access region and adjacent the substantially constant length gate electrode material, in combination with the remaining claimed limitation of claim 12.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (571) 272-1666. The

Art Unit: 2811

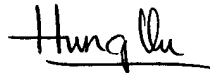
examiner can normally be reached on Mon-Thurs 6:00-3:30, alternate Friday 7:00-3:30, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (571) 272-1732. The Central Fax Number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Vu

November 29, 2004

A handwritten signature in black ink, appearing to read 'Hung Vu', with a horizontal line drawn underneath the signature.

Hung Vu

Patent Examiner